

Claims

1. Plug-in connection for tube and hose lines comprising a nozzle (1) with a catch shoulder (2) extending at least partially around the outer circumference, the catch shoulder (2) formed of an inclined surface (3) sloping upward from the outer circumference and a catch surface (5) following in the plug-in direction (direction of arrow 21), and a plug (7) that can latch with the nozzle (1) on the catch surface (5) of the nozzle (1) by way of at least two spaced-apart snap-in locations (15, 16, 29, 29'), with the plug (7) supporting a radially displaceable, approximately U-shaped catch spring (11, 11') having two lateral legs formed as catch legs (29, 29'), **characterized in that** the catch spring (11, 11') forms at least one additional, approximately centered snap-in location between the plug (7) and the nozzle (1), and that this additional snap-in location is located forward in the insertion direction (direction of arrow 21) in relation to the two lateral snap-in locations (15, 16, 29, 29').
2. Plug-in connection according to claim 1, **characterized in that** when the nozzle (1) is inserted in the plug (7), the center snap-in location on the catch spring (11, 11') latches first with the catch surface (5) on the nozzle (1), causing a radially inward motion of the catch spring (11, 11') relative to the plug (7), with the plug (7) causing the two lateral catch legs (29, 29') of the catch spring (11, 11') to latch on the catch surface (5) of the nozzle (1) with an axial offset (50).
3. Plug-in connection according to claim 1 or 2, **characterized in that** the additional, approximately center snap-in location is formed on the catch spring (11, 11') as a radially inwardly oriented control clip (14, 14').

4. Plug-in connection according to claim 2, **characterized in that** the control clip (14) is approximately trapezoidally bent outward from the catch spring (11), and slides during the latching motion with inclined legs (24) on associated inclined surfaces (39) of a slot (34) formed as a control slot (13), and has an offset in the insertion direction (21).

5. Plug-in connection according to claim 2, **characterized in that** the control clip (14') is approximately trapezoidally bent outward from the catch spring (11) and forms a forward offset (51) in the insertion direction (21), which offset (51) cooperates with the inclined surface (3) on the catch shoulder (2) of the nozzle (1).

6. Plug-in connection according to one of the claims 1 to 4, **characterized in that** the catch spring (11, 11') is moved into a lowered position only after the control clip (14) has latched on the catch surface (5) of the catch shoulder (2), whereby the catch legs (29, 29') of the catch spring reach the region of the catch surface (5) on the catch shoulder (2), latching synchronously and concurrently.

7. Plug-in connection according to one of the claims 1 to 5, **characterized in that** instead of the control clip (14, 14'), which is bent outward from the control clip (14, 14'), a sliding block, projection or lug are attached to the catch spring.

8. Plug-in connection according to one of the claims 1 to 7, **characterized in that** the section of the catch legs (29) of the catch spring (11) which extends through the catch spring opening (15,

16) located on the plug, is straight.

9. Plug-in connection according to one of the claims 1 to 7, **characterized in that** the section of the catch legs (29) of the catch spring (11) which extends through the catch spring opening (15', 16') located on the plug, is offset radially inwardly.